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NEW JAPANESE MARINE MOLLUSCA: PELECYPODA.

BY HENRY A. PILSBRY.

The Pelecypods described herein were nearly all received from Mr. Y. Hirase, of Kyoto, Japan. Most of them are from Hirado, Hizen, at the extreme west of Kyushu, where the wide-ranging species of the central Indo-Pacific province rule, and the exclusively Japanese faunal element is less conspicuous than farther north and east. That many new forms are encountered even here but confirms the experience of other recent workers, that in all parts of the Indo-Pacific area there has been great local differentiation.

In these *Proceedings*, p. 6, I described a *Conus* from Kikai-ga-shima as *C. dormitor*. My attention has been called by several friends to the prior use of this name for an Eocene species; and I would therefore call the Japanese form *Conus comatosa*. It is probably ancestral to the recent *C. sieboldi* Rve.

***Mastra carneopicta* n. sp.** Pl. XXXIX, figs. 1, 2, 3.

Shell *oval*, the beaks slightly in front of the middle; moderately thin, pure white inside; externally profusely painted with flesh-colored rays on a whitish ground, covered with a very thin yellow cuticle toward the margins. Anterior and posterior dorsal areas closely and deeply radially sulcate, and the lower part of the anterior half is concentrically irregularly sulcate; the rest of the surface being smooth. The pallial sinus is very short and semicircular, the muscle-impressions and pallial line but faintly marked. The hinge is that of the typical group of *Mastra*. Length 60, alt. 45, diam. 28.5 mm.

Wakatsuuri, Kitami. Type No. 86,294, A. N. S. P., from No. 1,281 of Mr. Hirase's collection.

This species resembles *M. antiquata* Spengl. somewhat, but is not triangular and is white within. It is not unlike some forms of *M. stultorum* in coloration.

***Pisula (Oxyperas) bernardi* n. sp.** Pl. XXXIX, figs. 4, 5, 6.

Shell long and narrow, the altitude contained about 1.8 times in the length; somewhat triangular, compressed; moderately solid; the beaks at the anterior two-fifths of the length. White under a closely adherent drab and whitish cuticle, which is irregularly dappled with

purple-brown spots. Sculpture of coarse and irregular concentric wrinkles and sulci, the umbonal region smooth. Interior of a peculiar Isabella tint. Pallial sinus wide and extending to or a trifle beyond the middle of the shell's length. Muscle scars well impressed. Hinge spiculoid, with the bearing faces of the lateral teeth vertically crenulate.

Length 58, alt. 32.5, diam. 19 mm.

Fukura, Awaji. Type No. 86,313, A. N. S. P., from No. 1,561 of Mr. Hirase's collection.

Compared with *S. aspersa* Sowb.,¹ this species differs in proportions, being longer and narrower. A specimen of *S. aspersa* before me measures, length 53, alt. 33, diam. 18.5 mm., the altitude being therefore contained about 1.6 times in the length. The beaks are correctly stated by Reeve to be at the anterior third. The pallial sinus is much longer than in *S. bernardi*, nearly three-fifths the length of the shell. The lateral teeth are longer in *S. bernardi*. The external sculpture is conspicuously unlike in the two species. It is named in honor of the late M. Félix Bernard.

Cytherea crispata amica n. subsp. Pl. XXXIX, figs. 10, 11.

Shell shortly ovate, ventricose, rather thin, the beaks at about the anterior third of its length. Pale buff, marked with three indistinct diverging brown rays, the color confined chiefly to the lamellæ, and with some scattered spots, and narrow oblique stripes on each side of the beaks. The beaks are rather full; the lunule cordate and defined by sunken lines; no escutcheon is defined on the right valve, but a depression marks it in the left. The immersed ligament is narrowly lanceolate. The anterior end is rounded, the posterior subtruncate. Sculpture of very numerous rounded radial riblets, wider than their intervals, and undivided throughout. These are crossed by many thin erect concentric lamellæ. The upper side of each one is fluted, the ridges corresponding to intervals of the radial riblets, while the lower side is much more deeply fluted, a narrow buttress arising from each radial riblet. The interior is white, the pallial sinus short and ascending, rounded at the end. Muscle impressions and pallial line are very faintly indicated. The anterior and median cardinal teeth are simple and rather slender in the right valve, the posterior tooth deeply bifid. In the left valve the anterior cardinal is simple compressed and high, the middle one wide and deeply bifid, the posterior slender and lamellar. A curved ridge extends from the hinge-plate partly around the anterior

¹ *Conch. Icon., Mactra*, Pl. 14, fig. 65.

adductor scar, anteriorly. The anterior margin is finely crenulated from the beaks down, and along the basal margin, the posterior end being without internal crenulation.

Length 51, alt. 43, diam. 32 mm.

Hirado, Hizen. Type No. 86,299, A. N. S. P., from No. 1,511 of Mr. Hirase's collection.

This is a less ponderous species than either *Cytherea puerpera* or *C. reticulata*, the radial riblets are more numerous and the concentric lamellæ thinner and higher than in either, and quite different in sculpture. The hinge and teeth, while of the same type, are decidedly more delicate. I rank the form as a variety of *Venus crispata* Desh. (*P. Z. S.*, 1853, p. 2, No. 8), but the lamellæ of that species are stated to be "*in medio et ad margines crassioribus, inflexus*," terms hardly applicable to the present species. The description of the interior—"valvis intus in fornice croceis; sinu pallii latissimo, profundo"—is also at variance with the specimens before me.

Chione micra n. sp. Pl. XLI, figs. 4, 5.

Shell minute, oval, moderately thick, cream-white, some or all of the ribs stained with light reddish-brown. Beaks small, at about the anterior third. Lunule cordate, not distinctly defined, escutcheon lanceolate, slightly excavated. Ligament immersed, short and lanceolate. Sculpture of radial, rounded ribs, 18–20 in number, of which three are on the lunule. The ribs are wider near the anterior end, where several of them are flattened and divided by a median groove, and in the intervals of these bifid ribs a minute riblet is interposed near the lower margin. Elsewhere the intervals are about as wide as the ribs. The concentric riblets are low in the intervals, but on the ribs they rise as erect flat scales. The interior is livid-whitish in the cavity, the muscle-impressions, pallial sinus and space below the pallial line being purple-brown, fading to white at the edge. The pallial sinus is short and ascending, round at the end. Both ends and the ventral margin are minutely crenulate within, and the margin within the lunule has very fine crenulations nearly parallel to the long axis of the shell. In the left valve the anterior and posterior cardinal teeth are simple, the median one bifid, the posterior tooth being very thin. The right valve has a bifid median cardinal, simple ones on each side, the anterior tooth very thin.

Length 5.6, alt. 5, diam 3 mm.

Hirado, Hizen. Types No. 80,583, A. N. S. P., from No. 1,209 of Mr. Hirase's collection.

I have had these minute shells for several years without being able

to identify them as the young of any larger species, although I am disposed to believe that it will be found to reach a larger size. The small number of radial riblets is a prominent feature of the sculpture. *Venus imbricata* Sowerby is a longer species with the lamellæ obsolete in the intervals. *V. scabra* Hanley is unlike in sculpture, but both of these seem related to *C. micra*.

Chione hizenensis n. sp. Pl. XLI, figs. 1, 2.

Shell small, shortly ovate, compressed, yellowish, irregularly maculate with reddish-brown. Beaks slightly in front of the middle, small and projecting but slightly. Anterior end broadly rounded, posterior end narrower and somewhat tapering. Sculpture of about 42 rounded radial riblets, a little wider than their intervals, becoming very small at the two ends of the series, though they are largest at the anterior end of the shell. The ribs of the anterior half of the shell are divided by a narrow median groove, on the lower half of each rib. These radial riblets are crossed by many regular narrow concentric ridges, higher on the ribs than in the intervals; the whole producing the effect of a tiled roof. The interior is white, usually with a drop-shaped purple-brown streak at one or both ends, and more or less extensive stains of similar tint in the cavity. The pallial sinus is short and rounded. The edge is crenulated in harmony with the riblets along the posterior half of the lower margin, but along the anterior half there are about two denticles to each rib. The two ends are very finely crenulate, and the anterior side of the dorsal margin is crenulate parallel to the longest axis of the shell, the posterior dorsal margin being smooth. The two obliquely triangular cardinal teeth in the right valve and the short median tooth in the right valve are slightly bifid.

Length 10.8, alt. 8.6, diam. 5 mm.

Hirado, Hizen. Types No. 86,281, A. N. S. P., from No. 1,038b of Mr. Hirase's collection.

V. costellifera Adams and Reeve (*Zool. "Samarang," Moll.*, p. 79 pl. 21, fig. 18) is a larger, differently colored form from the Philippines, which seems from the description and figure to be closely related, but the scales are stated to be semilunar, while in *C. hizenensis* they are straight. *V. marica* differs in sculpture and in the pattern of internal crenulation of the valve margins.

Pitar sulfurea n. sp. Pl. XXXIX, figs. 7, 8, 9.

The shell is triangular-oval, inflated, solid; pale sulphur-tinted outside, and distinctly, very finely striate throughout, with some impressions indicating former growth-arrests. Beaks full and prominent,

about at the anterior third. Anterior end a little narrower than the posterior, the margin sloping straight to the beak; the posterior upper margin arcuate. No lunule or escutcheon are defined. The ligament is deeply sunken and narrowly lanceolate. The interior is bright reddish-ochre colored in the cavity, white outside the pallial line. Valve margins smooth. The hinge is rather broad, the teeth much like those of *Pitar citrina* Lam. The pallial and muscle scars are but slightly impressed. The pallial sinus small and ascending, extending a little beyond the posterior third of the shell's length.

Length 30.5, alt. 26.5, diam. 19.5 mm.

Length 25.5, alt. 23, diam. 18 mm.

Fukura, Awaji. Types No. 82,135, A. N. S. P., from No. 1,297 of Mr. Hirase's collection.

Tellina hirasei n. sp. Pl. XLI, fig. 3.

Shell irregularly ovate, compressed, white and thin. Posterior end tapering to a narrowly rounded termination, the anterior end longer and broadly rounded; lower margin strongly arcuate, upper margins nearly straightly sloping, the beaks very small and but slightly projecting. Sculpture of very fine low rounded simple radial riblets, at least twice the width of their narrow interstices, crossed by equally spaced, thin, erect, minutely crimped concentric lamellar threads, about one-half a mm. apart on the middle of the disk of the type specimen. There is a slight radial ridge posteriorly, the surface of the valves being elsewhere regularly convex. Interior white and glossy, very faintly showing a very deep and wide pallial sinus, extending beyond the middle of the shell, and partly confluent with the pallial line below. In the right valve there are two delicate diverging cardinal teeth, the ends overhanging the cavity, and strong, triangularly elevated lateral teeth. The left valve has two cardinal teeth, the anterior one vertical, slightly bifid, the posterior tooth very thin, and parallel to the posterior dorsal slope. On each side the margin is raised into small lamellæ fitting above the lateral teeth of the other valve. The ligament is narrow and oblique as usual.

Length 18.5, alt. 13.6, diam. 7 mm.

Hirado, Hizen. Type No. 86,268, A. N. S. P., from No. 1,524 of Mr. Hirase's collection.

This is an exquisitely sculptured shell, with more delicate concentric lamellæ than *Semele exarata* Ads. and Rve., a species curiously like it in sculpture. It is apparently referable to the subgenus *Pseudarcomaginia* of Bertin. It resembles *Tellina corbis* Bronn in sculpture and to some extent in contour.

Tellina fabrefacta n. sp. Pl. XLI, figs. 11, 12.

Shell oblong, compressed, thin and white; equilateral, the two ends about equally rounded, the upper and basal margins arcuate, the small beaks but slightly projecting, opisthogyrous. Sculpture of coarse concentric ridges nearly as wide as their intervals, the latter decussated with delicate radial riblets, slightly cuneate in each interval. At the posterior end the ridges are broken up, and in combination with the radii form lozenge-shaped tubercles. The glossy interior shows a very capacious linguiform and ascending pallial sinus; rounded at the end, which extends decidedly past the middle of the valve, its lower margin not confluent with the pallial line. In the left valve there is one short, erect cardinal tooth; in the right valve two short, diverging cardinals, and minute anterior and posterior laterals remote from them.

Length 6, alt. 3.4, diam. 2.1 mm.

Hirado, Hizen. Types No. 86,304, A. N. S. P., from No. 1,545 of Mr. Hirase's collection.

Totally unlike any other species known to me.

Codakia bella delicatula n. subsp. Pl. XLI, figs. 15, 16.

Compared with *C. bella* this form is smaller, more inflated, the diameter decidedly exceeding half the length, with finer, more delicate sculpture.

Length 11.3, alt. 11, diam. 6.5 mm.

Length 10.5, alt. 11, diam. 6 mm.

Riukiu Island. Types No. 82,048, A. N. S. P., from No. 1,307 of Mr. Hirase's collection.

Typical examples of the widespread *Codakia (Jagonia) bella* Conr. occur in Japan, having been sent from Hirado, Hizen, by Mr. Hirase (No. 1,530 of his register). It has also been reported by Dunker and others as *Lucina divergens* Phil., a name which Dall has shown to be synonymous. Reeve's *Lucina fibula* is apparently a composite of two species, but the Oriental form included by him and by Adams and Reeve under that name is doubtless identical with *C. bella* Conrad.

Cardium hungerfordi Sowerby. Pl. XLI, fig. 17.

Journal of Malacology, VIII, p. 103 (1901).

A figure of this species is given for comparison with the two forms following. All of them occur at Hirado, Hizen, preserving their individuality without intergradation, so far as the material submitted to me shows. All of them are more fragile than *C. papyraceum* Brug., which has been reported from Japan, but which I have not seen from north of the Philippines. It is not unlikely that the records of *Papy-*

raceum from Japan were based upon specimens of this species or of *C. annæ*.

C. hungerfordi is flesh-colored, either almost uniform or with narrow darker concentric zones alternating with wider pale zones. The shell figured measures, length 10, alt. 9, diam. 6.5 mm. It is from Hirado, Hizen, No. 80,601, A. N. S. P., from No. 1,234 of Mr. Hirase's collection.

Cardium hungerfordi undatopictum n. subsp. Pl. XL, figs. 14, 15.

Shell extremely thin, similar in shape to the preceding or with the posterior end longer. Sculpture as in *C. hungerfordi*, except that very low riblets are visible across the whole valve near the basal margin. Concentrically streaked and profusely marked in zigzag pattern with flesh tint on a whitish ground, the beaks dark. Interior more distinctly marked with waved or zigzag concentric streaks of flesh color or crimson; radially finely grooved, and the inner margin is distinctly crenulate in the middle as well as toward the ends.

Length 16.5, alt. 16.5, diam. 10 mm.

Hirado, Hizen. Types No. 80,521, A. N. S. P., from No. 880 of Mr. Hirase's collection.

This form is much larger than *C. hungerfordi* Sowb. III, equally thin, but with another pattern of color, much like that of *C. annæ* Pils., from which it differs in sculpture. As in other forms of the group, there is more or less minute roughening of the ends by fine asperities. The marginal crenulation of this form is a feature strongly differentiating it from *C. hungerfordi* and *stigmaticum*.

Cardium hungerfordi stigmaticum n. subsp. Pl. XLI, figs. 13, 14.

This is a small, thin, nearly equilateral white species, with the apex of each valve red-brown, a vertical streak of the same color on the convexity of the valve below it, and sometimes some faint stains of the same at the sides. The white interior shows the median streak, with usually side streaks and often some mottling or a streak along the pallial line. The sculpture consists of about 9 rather strong but low rounded ribs on the posterior slope, divided into two sets by a shallow, wide radial valley, the last rib dorsally having a linear riblet on each side of it. The median portion of the valve is almost smooth, showing the faintest traces of fine riblets near the lower margin; but where the lower passes into the anterior slope the ribs are decidedly stronger, and denticulate the edge. There is a minute punctulation at both ends in perfectly fresh shells. The right valve has anterior and posterior lateral teeth, the anterior wanting in the other valve.

Length 11.3, alt. 12, diam. 7.3 mm.

Hirado, Hizen. Types No. 86,279, A. N. S. P., from No. 1,410 of Mr. Hirase's collection.

This very pretty little form differs from *C. hungerfordi* Sowb. chiefly in coloration. The latter occurs at Hirado, Hizen, also (1,234 of Mr. Hirase's collection).

Cardium annæ n. sp. Pl. XL, fig. 20.

Shell subcircular and inflated, almost perfectly equilateral, thin white, profusely marked with pale flesh-pink zigzag streaks, the beaks fleshy-brown. Sculpture of fine radial riblets at the ends, each scored at the summit with a finely punctured groove, the grooves persisting over the median portion of the shell where the riblets are obsolete or nearly so. Anteriorly there are about 16 very regular riblets not extending to the edge above, a lanceolate lunular area being left smooth. Posteriorly the riblets are coarser, less regular, part of them flattened and sulcate down the middle. The riblets scarcely crenulate the margins of the valves. The smoothish median part of the shell is regularly marked with close punctured lines, the spaces between them being perceptibly concave. The interior is slightly fluted by the external ribs at the two ends, nearly smooth elsewhere. The zigzag external markings show rose or crimson on a white ground, which deeper in the cavity changes to fleshy-brown.

The right valve has two contiguous cardinal teeth, the anterior one standing almost above the posterior, and well developed anterior and posterior lateral teeth. In the left valve the cardinals diverge, the anterior being the larger. The anterior lateral is well developed, the posterior obsolete.

Length 27, alt. 25, diam. 16 mm.

Hayama, near Kamakura, Sagami, on Sagami Bay. Types No. 86,319, A. N. S. P., collected and given to the Academy by Miss Anna C. Hartshorne.

This beautiful *Cardium* is related to *C. papyraceum* Brug., which I have not yet seen from Japan. It is more fragile and more delicately sculptured than that species, in which the inner margins of the valves are closely and deeply fluted. Moreover, the altitude of *C. papyraceum* decidedly exceeds the length, while in *C. annæ* the length is greater. In *C. papyraceum* the posterior end is more produced than the anterior, the latter being noticeably straightened and subvertical, while in *C. annæ* the two ends are almost equally rounded. The coloration also differs.

There is a specimen of this species in the collection of the Academy, received many years ago from Andrew Garrett, labelled "*C. tcheliense*

Debeaux, China." Debeaux collected in Chinese waters and published a little-known and not very valuable paper on his results in *Recueil de Mémoires de Médecine, de Chirurgie et de Pharmacie militaires, rédigé sous le surveillance du Conseil de Santé*, 3 ser., VI, Paris, 1861; but no mention is made therein of a *Cardium tcheliense*. I have been unable to trace it in the literature examined. The name suggests that of a province of northern China, but being orthographically defective, I have thought its retention undesirable.

Kellia porculus n. sp. Pl. XLI, figs. 18, 19, 20.

The small cream-white subglobular shell resembles *K. japonica* Pils. in outlines, except that it is decidedly more ventricose. The glossy surface is minutely striate, with stronger irregularities at unequal distances indicating periods of growth-arrest. In the right valve there is a single rather broad, oblique cardinal tooth, with a socket and a minute tubercle above it, and a small, triangular lateral. The left valve has two erect, subequal cardinals and a strong, triangular lateral.

Length 8.5, alt. 8, diam. 6 mm.

Hirado, Hizen. Type No. 86,266, A. N. S. P., from No. 1,011a of Mr. Hirase's collection.

In *K. japonica* Pils. the teeth are all much more delicate and the shell is less inflated. The hinge of *K. japonica* is figured for comparison, pl. XLI, fig. 21.

Solecardia vitrea japonica n. subsp. Pl. XLI, fig. 6.

Shell resembling *S. vitrea* Quoy and Gaimard (*Scintilla aurantiaca* Desh.) in shape, but smaller and white.

Length 10.3, alt. 5, diam. 3 mm.

Hirado, Hizen. Types No. 86,276, A. N. S. P., from No. 1,544 of Mr. Hirase's collection.

Myodora reeveana Smith. Pl. XLI, figs. 7, 8, 9, 10.

Shell small, solid, yellowish-white, with the right valve quite convex and projecting beyond the other below, the left valve flat and smaller. Behind the beaks the dorsal valve-margins are concave and excavated, in front of them they are slightly convex. The basal margin is strongly arcuate, the posterior end truncate and biangular, and the anterior end narrowly rounded. Both valves are irregularly sculptured with coarse wrinkles, the convex valve more strongly so. The pallial sinus is small and triangular. In the right valve the anterior lateral tooth is a long, perfectly straight ridge, the posterior tooth is very small and narrow, largely overhung by the concave valve margin. In the left

valve there is a small erect anterior lamella, and a curved posterior one.

Length 7, alt. 5, diam. 2 mm.

Hirado, Hizen. Figured specimens are No. 86,301, A. N. S. P., from No. 914 of Mr. Hirase's collection.

A peculiar, very asymmetrical little species, originally described from China. *Myodora proxima* Smith, 1880 (= *triangularis* "A. Ad." Dkr., 1882), has also been taken by Mr. Hirase at Hirado, Hizen. These two with *M. fluctuosa* Gld. are the only species of the genus yet reported from Japan.

Ostrea circumpieta n. sp. Pl. XL, figs. 12, 13.

The shells of this oyster are very irregular and rough, showing a few radial ridges on the upper valve, and rough lines of growth-arrest. Nearly the whole lower valve has been attached. The exterior is gray or with some purple pencilling. Both valves have long, projecting beaks, and are usually about equally concave within. The interior is bluish-white or dirty white, extensively olive-stained, and often with some purple stains. The borders are smooth or nearly so near the hinge, and smooth or finely, irregularly scalloped elsewhere, and the distal and lateral margins are in part or wholly painted with a rather wide border of purple or groups of purple lines. The length of a well-grown shell is 87, breadth 56 mm.

Hirado, Hizen. Types No. 80,448, A. N. S. P., from No. 500 of Mr. Hirase's collection.

O. inaequalis Sowb.,² from Madagascar and Mauritius, is similar in internal coloring. *O. vitrefacta* Sowb.³ also resembles this species somewhat, but that is conspicuously crenate within.

Arca kobeltiana n. sp. Pl. XL, figs. 16, 17, 18, 19.

Arca ocellata? Kobelt, Conchylien Cabinet, *Arca*, p. 87, Pl. 24, figs. 1-4.
Not *A. ocellata* Reeve.

This is a deep, narrow *Arca*, with a strong diagonal keel and another defining the posterior border of the ligament-area. The surface where unworn is many-ribbed and densely hirsute, but this sculpture and covering persists only at the edges of the specimens before me. The ventral margin gapes rather widely. The wide ligament-area is marked off into concentric lozenges by very numerous ligament-filled diagonal broadly V-shaped sulci, of which I count 11 in a shell 44 mm. long, 17 in one 55 mm. long. The hinge-line is narrow, the teeth fine, close

² *Conch. Icon.*, XVIII, *Ostrea*, fig. 82.

³ *Conch. Icon.*, XVIII, *Ostrea*, fig. 80.

and vertical in the middle, somewhat irregular there and anteriorly, but posteriorly they become coarse and very oblique, and strongly crenulate on the upper edges. The count of teeth in three shells is as follows, the anterior end preceding:

23, 17=40 teeth; length of shell 44 mm.

18, 26=44 teeth; length of shell 44 mm.

15, 30=45 teeth; length of shell 53 mm.

The interior is dirty white, sometimes with brown stains, the edges crenulate and brown.

Length 53, alt. 24, diam. 26 mm.

Length 44, alt. 21, diam. 23 mm.

Co-types No. 78,750, A. N. S. P., from the east coast of Japan, collected by Miss Anna C. Hartshorne (fig. 17), and No. 58,082, received in a lot of shells from northern Japan, probably Yesso, but the exact locality is unknown.

I take these shells to belong to the species described by Kobelt in his excellent monograph cited above, and referred by him with great doubt, and on the authority of Mr. E. A. Smith, to *A. ocellata* Reeve, described from Singapore. Having before me topotypes of *A. ocellata*, as well as several Japanese specimens which agree with them, I am compelled to regard the two species as entirely distinct, and not even closely related, although they agree in general shape. The ligament-area in *A. ocellata* is smooth, scored by only a few, usually imperfect ligament grooves, there being a large oblique triangle posteriorly and an erect triangle between the beaks free from them. The two oblique triangles marked by grooves are usually covered with a smooth yellow (or in some Japanese shells, blackish) cuticle, while the rest of the area is whitish. This is well shown in the dorsal aspect of a specimen of *A. ocellata* from the province of Suruga (No. 71,041, A. N. S. P.), drawn in fig. 21 of pl. XL.

Arca ocellata does not attain nearly the size of *A. kobeltiana*, an adult Singapore shell measuring, length 26, alt. 12.5, diam. 13 mm. The Japanese specimens with unworn surface are somewhat more regular in growth than those from Singapore, and have a very narrow ventral gape. One measures, length 20.5, alt. 11.6, diam. 10.6 mm. The diagonal keel is very acute.

REFERENCE TO PLATES XXXIX-XLI.

PLATE XXXIX, Figs. 1, 2, 3.—*Mactra carneopicta* Pils.

Figs. 4, 5, 6.—*Spisula bernardi* Pils.

Figs. 7, 8, 9.—*Pitar sulfurea* Pils.

Figs. 10, 11.—*Cytherea crispata amicta* Pils.

PLATE XL, Figs. 12, 13.—*Ostrea circumpicta* Pils.

Figs. 14, 15.—*Cardium hungerfordi undatopictum* Pils.

Figs. 16, 17, 18, 19.—*Arca kobeltiana* Pils.

Fig. 20.—*Cardium annæ* Pils.

Fig. 21.—*Arca ocellata* Reeve.

PLATE XLI, Figs. 1, 2.—*Chione hizenensis* Pils.

Fig. 3.—*Tellina hirasei* Pils.

Figs. 4, 5.—*Chione micra* Pils.

Fig. 6.—*Soletellina vitrea japonica* Pils.

Figs. 7, 8, 9, 10.—*Myodora reeveana* Smith.

Figs. 11, 12.—*Tellina fabrefacta* Pils.

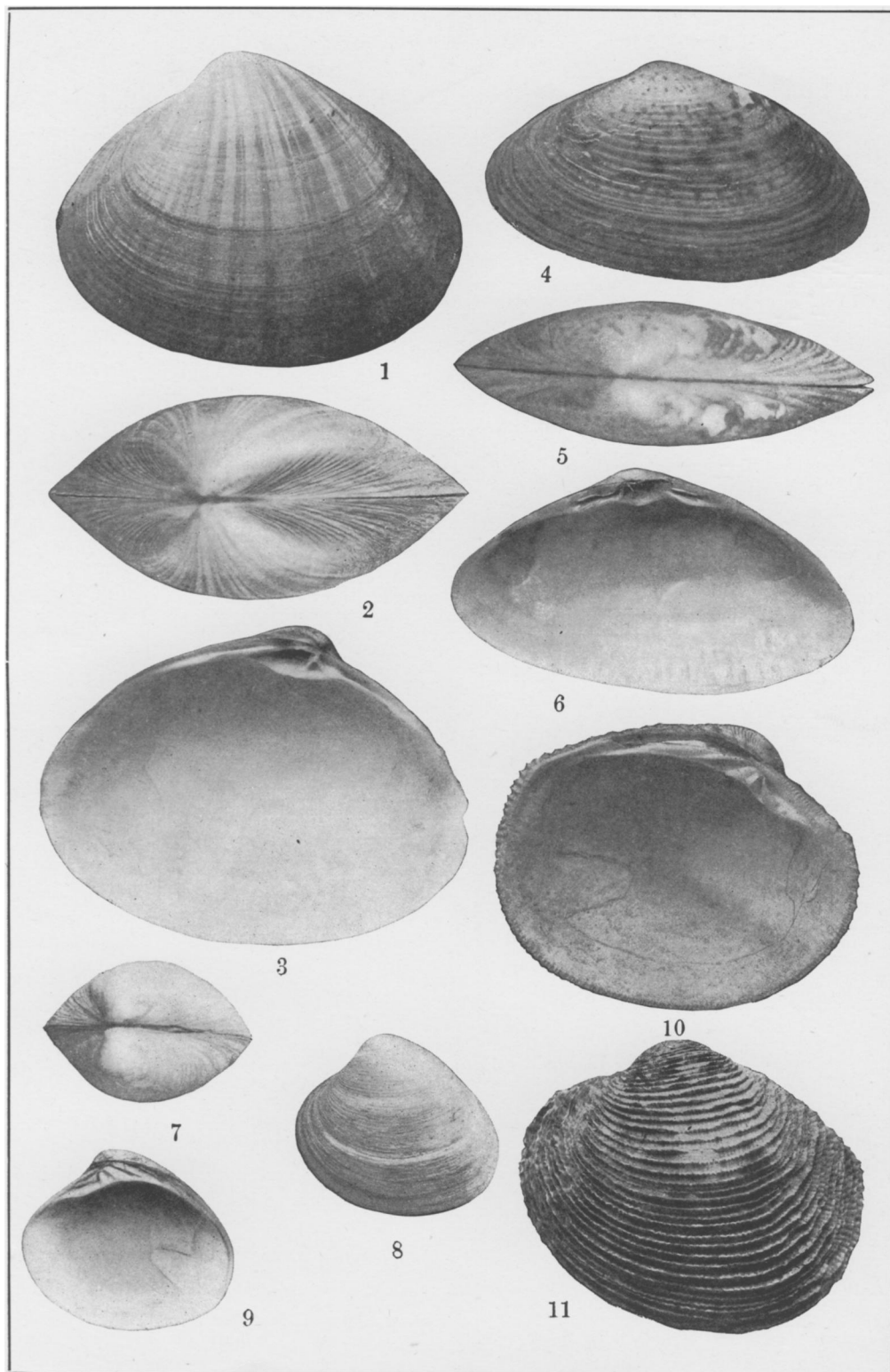
Figs. 13, 14.—*Cardium hungerfordi stigmaticum* Pils.

Figs. 15, 16.—*Codakia bella delicatula* Pils.

Fig. 17.—*Cardium hungerfordi* Sowb.

Figs. 18, 19, 20.—*Kellia porculus* Pils.

Fig. 21.—*Kellia japonica* Pils.



PILSBRY. NEW JAPANESE MARINE MOLLUSCA · PELECYPODA.

